

Notice of Allowability

Application No.

09/931,661

Applicant(s)

KAGAWA, TAKASHI

Examiner

Art Unit

Paulos M. Ntnael

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed 12-10-04.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 16 August 2001 and 10 December 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 12-10-04 4/15/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. Claims **1-6** are allowed.
2. The following is an examiner's statement of reasons for allowance: the prior art fails to disclose the combination of the following limitations for an image processing apparatus, comprising:

an image-signal processing apparatus for generating a still image signal in any one frame from a video signal including either an interlaced image signal having first and second fields of an image in which adjacent fields have different time axes or a progressive image signal having first and second fields obtained by alternately extracting every other horizontal scanning line from images having different time axes in alternate frames, comprising:

identification means for identifying the interlaced image signal or the progressive image signal included in the video signal;

first and second image memories for storing two consecutive fields of images included in the video signal;

a motion detection filter for detecting motion by comparing the images stored in the first and second image memories;

an image interpolation filter for, when motion is detected by the motion detection filter in a first set of images stored in the first and second image memories modifying the

Art Unit: 2614

first set of images with a second set of images stored in the first and second image memories;

bypass means for bypassing the image interpolation filter to extract the first set and the second set of images stored in the first and second image memories; and

signal output means for alternately extracting, in fields, the first set and the second set of images sent from the image interpolation filter when the identification means either identifies the interlaced image signal or cannot identify the interlaced image signal, and for alternately extracting, in fields, the first set and the second set of images sent from the bypass means when the identification means identifies the progressive image signal, as in claim 1; and,

an image-signal processing method for generating a still-image signal in any one frame from a video signal including either an interlaced image signal having first and second fields of an image in which adjacent fields have different time axes or a progressive image signal having first and second fields obtained by alternately extracting every other horizontal scanning line from images having different time axes in alternate frames, comprising:

an identification step of identifying the interlaced image signal or the progressive image signal included in the video signal; a step of storing two consecutive fields of images included in the video signal in first and second image memories;

a motion detecting step of detecting motion by comparing the images stored in the first and second image memories;

a step of, when motion is detected in the motion detecting step in a first set of images stored in the first and second image memories modifying the first set of images with a second set of images stored in the first and second image memories by using an image interpolation filter;

a bypass step for bypassing the image interpolation filter to extract the first set and the second set of images stored in the first and second image memories; and,

a signal output step of alternately extracting, in fields, the first set and the second set of images sent from the image interpolation filter and from the image-quality adjustment filter when the interlaced image signal is identified or cannot be identified in the identification step, and of alternately extracting, in fields, the first set and the second set of images extracted in the bypass step when the progressive image signal is identified in the identification step, as in claim 4;

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (571) 272-7354. The examiner can normally be reached on 10:00am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571)272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PMN
May 29, 2005



PAULOS M. NATNAEL
PATENT EXAMINER